

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Original): A silica glass crucible used for pulling silicon single crystal, wherein at least an outer surface of a wall part of the crucible is covered with fine grooves having a length of less than $200\mu\text{m}$, a width of less than $30\mu\text{m}$ and a depth of from more than $3\mu\text{m}$ to less than $30\mu\text{m}$.

Claim 2 (Original): The silica glass crucible according to Claim 1, wherein the fine grooves exist on more than 10 % of the outer surface of the crucible.

Claim 3 (Currently Amended): The silica glass crucible according to Claim 1, wherein a sliding frictional coefficient of the outer surface of the crucible to a carbon member at 1500 degree C is more than 0.6.

Claim 4 (Original): The silica glass crucible according to Claim 1, wherein the outer surface of the crucible is covered with the fine grooves by carrying out a sand-blast treatment and a hydrofluoric acid etching on the outer surface.

Claim 5 (Original): The silica glass crucible according to Claim 1, wherein the number of projections having a height of 0.1 mm or more is an average of less than $5 / \text{mm}^2$ per unit area on the outer surface of the crucible.

Claim 6 (Currently Amended): A silica glass crucible used for pulling silicon single crystal, wherein at least an outer surface of a wall part of the crucible is covered with fine

grooves having a length of less than $200\mu\text{m}$, a width of less than $30\mu\text{m}$ and a depth of from more than $3\mu\text{m}$ to less than $30\mu\text{m}$, and

the fine grooves exist on more than 10 % of the outer surface of the crucible, and
a sliding frictional coefficient of the outer surface of the crucible to a carbon member at 1500 degree C is more than 0.6.

Claim 7 (Currently Amended): A silica glass crucible used for pulling silicon single crystal, wherein at least an outer surface of a wall part of the crucible is covered with fine grooves having a length of less than $200\mu\text{m}$, a width of less than $30\mu\text{m}$ and a depth of from more than $3\mu\text{m}$ to less than $30\mu\text{m}$, and

the fine grooves exist on more than 10 % of the outer surface of the crucible, and
a sliding frictional coefficient of the outer surface of the crucible to a carbon member at 1500 degree C is more than 0.6, and

the number of projections having a height of 0.1 mm or more is an average of less than $5 / \text{mm}^2$ per unit area on the outer surface of the crucible.

Claim 8 (Withdrawn): A process for forming fine grooves on the surface of a wall part of silica glass crucible used for pulling silicon single crystal, comprising carrying out a sand-blast treatment and a hydrofluoric acid etching on the said surface.

Claim 9 (Withdrawn): A process for forming fine grooves according to Claim 8, wherein fine grooves have a length of less than $200\mu\text{m}$, a width of less than $30\mu\text{m}$ and a depth of from more than $3\mu\text{m}$ to less than $30\mu\text{m}$.

Claim 10 (Withdrawn): A process for forming fine grooves according to Claim 8, wherein the sand-blast treatment is the polishing method by spraying the hard particles having the higher hardness than that of the silica glass, with high pressure gas.

Claim 11 (Withdrawn): A process for forming fine grooves according to Claim 10, wherein the hard particles are the crystalline quartz particles.

Claim 12 (New): The silica glass crucible according to Claim 1, wherein the fine grooves have a depth of from more than $3\mu\text{m}$ to $10\mu\text{m}$.

Claim 13 (New): The silica glass crucible according to Claim 1, wherein the fine grooves have a length of 10 to $100\mu\text{m}$.

Claim 14 (New): The silica glass crucible according to Claim 1, wherein the fine grooves have a length of 10 to $100\mu\text{m}$ and a width of 10 to $30\mu\text{m}$.

Claim 15 (New): The silica glass crucible according to Claim 6, wherein the fine grooves have a depth of from more than $3\mu\text{m}$ to $10\mu\text{m}$.

Claim 16 (New): The silica glass crucible according to Claim 6, wherein the fine grooves have a length of 10 to $100\mu\text{m}$.

Claim 17 (New): The silica glass crucible according to Claim 6, wherein the fine grooves have a length of 10 to $100\mu\text{m}$ and a width of 10 to $30\mu\text{m}$.

Claim 18 (New): The silica glass crucible according to Claim 7, wherein the fine grooves have a depth of from more than $3\mu\text{m}$ to $10\mu\text{m}$.

Claim 19 (New): The silica glass crucible according to Claim 7, wherein the fine grooves have a length of 10 to $100\mu\text{m}$.

Claim 20 (New): The silica glass crucible according to Claim 7, wherein the fine grooves have a length of 10 to $100\mu\text{m}$ and a width of 10 to $30\mu\text{m}$.